

TECHNICAL BULLETIN – TB022

ARDEX SELF LEVELLING CEMENTS EXTREME WEATHER PRECAUTIONS

Date, Monday, 21 November 2016

INTRODUCTION & SCOPE

Throughout any year we experience many climatic changes from snow, ice and sleet in our Southern States to heat waves, high humidity and monsoonal rains in our Northern States.

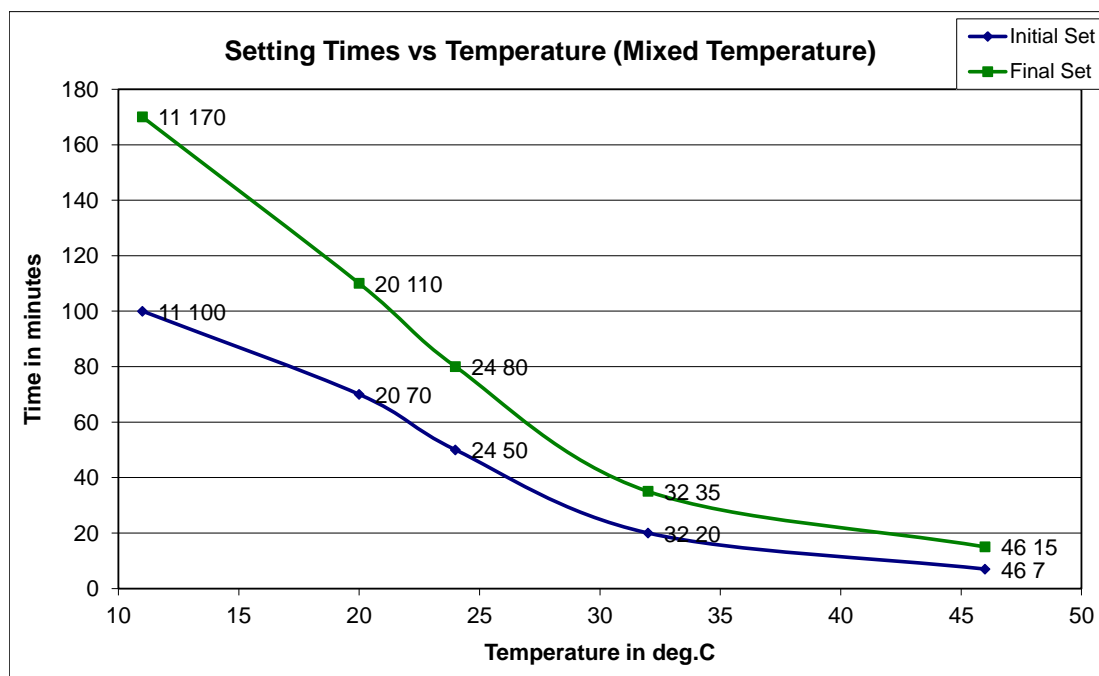
The installation procedures for floor levelling cements and floor coverings need to be constantly monitored and modified to suit these climatic changes.

THE PROBLEMS

Cold weather will dramatically slow down the setting and drying times of floor levelling cements resulting in extended waiting time before floor coverings can be laid. Extremely cold conditions combined with over-watering of self-levelling cements can result in permanent damage or non-curing to the cement underlayment.

Hot weather will dramatically speed up setting and drying times of floor levelling cements. Working times of cements will be shortened and flowing properties reduced, hot air blowing over freshly laid cement will result in rapid loss of moisture with the risk of cracks appearing. Over-watering intended “assist” with working times can result in weakening and poor hardness in the cement underlayment.

The effect of differing temperatures on the initial and final set times of smoothing cement can be seen in the graph below, where the temperature of the gauging water was varied for each mixture. As can be seen there is time extension at the cold end of the range (<15°C) and rapid shortening at the warm end (>28°C).



SOLUTIONS

COLD WEATHER

Plan the installation of floor levelling cements and floor coverings at a room temperature that will allow for the proper installation and meet the job schedule time lines

- 1) Deliver material in their original unopened packaging.

- 2) Protect from freezing, moisture and direct sunlight. Don't store outside where it is exposed to low ambient temperatures.
- 3) DON'T INSTALL smoothing cement over a cold subfloor that is BELOW 10°C
- 4) REMEMBER the smoothing cement will very quickly go to the temperature of the subfloor.
- 5) INCREASE THE AMBIENT TEMPERATURE of the work area to ensure the subfloor temperature exceeds 10°C – this may take 2 – 3 days or more. (Refer to A.S. 1884-2012 4.1 *CONDITIONING OF FLOOR COVERING AND SUBFLOOR – “ambient room temperature range of 15°C to 28°C”*).
- 6) REDUCE THE MIXING WATER to the minimum allowed where a product has a range. For example Ardex K15 has a range of 4.5-5 litres per 20kg bag, so 4.5 - 4.8 litres of water would be recommended.

When laying floor coverings, cold subfloor and ambient temperatures will extend the drying time of smoothing cements. Wait until the product is fully dry before installing floor coverings. For example at 10°C ambient temperature, ARDEX K15 will require a minimum 36 hours drying time rather than 18 hours as would be normal for ~20°C..

HOT WEATHER

AS1884-2012 says:

4.1.2 Air-conditioned areas

Where air conditioning is installed, no underlay or floor covering shall be laid on the subfloor until the conditioning units have been in operation at expected operating temperature and humidity for at least 7 days.

Plan the installation of floor levelling cements in the coolest part of the day and follow the basic steps below:

1. Deliver materials in their original unopened packages and protect from direct sun exposure and exposure to moisture.
2. DON'T INSTALL SMOOTHING CEMENTS OVER A HOT SUBFLOOR. Remember the smoothing cement will very quickly go to the temperature of the sub-floor.
3. Avoid direct sunlight, excessive heat or draughts on the smoothing cement once laid.
4. COOL DOWN THE MIXING WATER BY ADDING ICE TO THE MIXING WATER. (Allow ice to melt before mixing with smoothing cement). Don't take water straight from a hose lying in the sun, let it cool down.
5. Install a test area to determine the suitability of the product for the site conditions.

For further information on weather effects on Ardex products refer to Ardex Technical Bulletin TB097.

IMPORTANT

This Technical Bulletin provides guideline information only and is not intended to be interpreted as a general specification for the application/installation of the products described. Since each project potentially differs in exposure/condition specific recommendations may vary from the information contained herein. For recommendations for specific applications/installations contact your nearest Ardex Australia Office.

DISCLAIMER

The information presented in this Technical Bulletin is to the best of our knowledge true and accurate. No warranty is implied or given as to its completeness or accuracy in describing the performance or suitability of a product for a particular application. Users are asked to check that the literature in their possession is the latest issue.

REASON FOR REVISION

Some additions to the text

REVIEW REQUIRED

Two years from date of issue

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